REMARKS

Claims 31-67 are pending in the present application and claims 50-60 and 63-65 are withdrawn from consideration. Claim 31 has been amended and claims 50-60 and 63-65 are are cancelled without prejudice or disclaimer of the subject matter contained therein. Support for amended claim 31 may be found throughout the specification as filed, for example, on page 9, lines 9-12. No new matter has been added by way of amendment.

Reexamination of the application and reconsideration of the rejections and objections are respectfully requested in view of the above amendments and the following remarks, which follow the order set forth in the Office Action.

Substance of the Interview

Applicants thank Examiner Choi for the helpful comments in the interview on September 14, 2010 between Applicants' representative and Examiner Choi. In the interview, the patentability of the claims in view of U.S. Patent No. 5,342,521 to Bardot et al. ("Bardot") was discussed. A Declaration stating that Bardot does not disclose a structured mesoporous network was favorably discussed during the interview. Accordingly, such a Declaration is provided herewith.

Rejections under 35 U.S.C. § 102

Claims 31, 35-36, 38-43, 46-48, 62, and 67 were rejected under 35 U.S.C. § 102(b) as being anticipated by Bardot. Applicants respectfully traverse.

Applicants respectfully submit that the claims are patentable over Bardot because Bardot does not disclose a structured mesoporous network with open porosity, wherein the structured mesoporous network exhibits an organized structure with a repeating unit, as required by claim 31.

Claim 31 is drawn to an organic-inorganic hybrid material comprising two phases. The first, mineral phase comprises a structured mesoporous network with open porosity, in which the structured mesoporous network exhibits an organized structure with a repeating unit. The second, organic phase comprises an organic polymer and does not participate in creating the structured mesoporous network of the mineral phase. The second, organic phase is essentially not present inside the pores of the structured mesoporous network of the mineral phase.

Bardot discloses a reverse osmosis or nanofiltration membrane comprising an inorganic material porous support coated on one face with a first inorganic material mesoporous layer having a mean pore radius below 10 nm and a second active layer placed on the first mesoporous layer, which is made from an organomineral polymer or an organic polymer. See, c. 2, ll. 5-15. Bardot discloses a method to prepare a mesoporous TiO_2 layer. See, c. 4, ll. 42-51. Bardot fails to disclose a structured mesoporous network with open porosity, wherein the structured mesoporous network exhibits an organized structure with a repeating unit, as required by claim 31.

As set forth in the attached Declaration of Philippe Belleville ("Declaration") and its Appendix A, one of ordinary skill in the art would understand that Bardot does not disclose an organic-inorganic hybrid material in which a first mineral phase comprises a structured mesoporous network, as required by claim 31. See, ¶¶ 8 and 11. The mesoporous TiO_2 layer in Bardot cannot be a structured mesoporous network because the steps disclosed to prepare the mesoporous layer therein would not lead to production of a structured mesoporous network. See, ¶ 9. Further, mesoporous TiO_2 in the form of a structured mesoporous network was first synthesized in 1995, which is after the filing date of Bardot. See, ¶¶ 10 and 11. Therefore, Bardot, which was filed in 1991, could not disclose a structured mesoporous network. For these reasons, Bardot does not disclose each and every element required by claim 31, namely a structured mesoporous network with open porosity, wherein the structured mesoporous network exhibits an organized structure with a repeating unit.

Based on the foregoing, Applicants submit that claim 31 is not anticipated by Bardot. Accordingly, Applicants respectfully request reconsideration and withdrawal of the instant rejection.

Rejections under 35 U.S.C. § 103

Claim 66 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bardot in view of U.S. Patent No. 6,465,052 to Wu ("Wu").

As set forth in the attached Declaration, Bardot does not teach or suggest a structured mesoporous network because the method disclosed therein to prepare the TiO_2 mesoporous layer would not lead to a structured mesoporous network. See, ¶¶ 8-11. Wu also fails to disclose a structured mesoporous network exhibiting an organized structure with a repeating unity, as required by amended claim 31, from which claim 66 ultimately depends.

Accordingly, claim 66 is not obvious in view of the combination of Bardot and Wu. As such, Applicants respectfully request reconsideration and withdrawal of the instant rejection.

For the foregoing reasons, claims 31-49, 61, 62, 66, and 67 are considered allowable. A Notice to this effect is respectfully requested. If any questions remain, the Examiner is invited to contact the undersigned at the number given below.

The Director is hereby authorized to charge any appropriate fees that may be required by this paper, and to credit any overpayment, to Deposit Account No. 23-1925.

Respectfully submitted,

BRINKS HOFER GILSON & LIONE

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